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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 14/704,562 | 05/05/2015 | Richard L. Gregg | 231.0001-00000 | 2893 |

22882 7590 04/19/2017

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| EXAMINER |
|---|
| GE, JIN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2616 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 04/19/2017 | ELECTRONIC |

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* RICHARD L. GREGG[1]

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Appeal 2017-003247
Application 14/704,562
Technology Center 2600

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Before KRISTEN L. DROESCH, JOHNNY A. KUMAR, and SCOTT B. HOWARD, *Administrative Patent Judges*.

KUMAR, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant seeks review under 35 U.S.C. § 134(a) of the Final Rejection of claims 1–3. We have jurisdiction over the appeal of these claims pursuant to 35 U.S.C. § 6(b).

We AFFIRM.

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[1] Appellant identifies Prism Technologies, LLC as the real party in interest (App. Br. 1).

## STATEMENT OF CASE[2]

An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below [bracketed matter added]:

> 1. A method for altering visual perception during a welding operation, comprising:
>
> [a] obtaining a current image video using an image sensor attached to a welding mask:
>
> [b] determining a background reference image;
>
> [c] determining a foreground reference image;
>
> [d] processing the current video by:
>
> [e] combining the current video and the background reference image; and
>
> [f] substituting the foreground reference image onto the combined image; and
>
> [g] displaying, in real-time, a processed current video on a display screen attached to the welding mask.

## REJECTIONS

Claims 1 and 2 are rejected under 35 U.S.C. § 103 as being unpatentable over Steve,[3] Buchmann,[4] Levin,[5] and Applicant's Admitted Prior Art (hereinafter "AAPA"). Final Act. 4–11.

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[2] Our Decision will make reference to Appellant's Appeal Brief ("App. Br.," filed Aug. 16, 2016), the Examiner's Answer ("Ans.," mailed Oct. 31, 2016), and Appellant's Reply Brief ("Reply Br.," filed Jan. 3, 2017).

[3] US 2012/0180180 A1 (July 19, 2012).

[4] Volkert Buchmann et al., *Interaction With Partially Transparent Hands and Objects*, Proc. 6th Australian Conf. on User Interface (AUIC '05), Vol. 40, 17–20 (2005).

[5] Anat Levin et al., *A Closed-Form Solution to Natural Image Matting*, Proc. IEEE Conf. Computer Vision and Pattern Recognition (2006).

Claim 3 is rejected under 35 U.S.C. § 103 as being unpatentable over Tschirner,[6] Steve, Buchmann, and Levin. Final Act. 11–17.

ANALYSIS

Issue on Appeal: Did the Examiner err in combining Steve, Buchmann, Levin, and AAPA to teach or suggest all the limitations of claims 1 and 2 because the references are not properly combinable?

We have reviewed the Examiner's rejections in light of Appellant's contentions that the Examiner has erred. Further, we have reviewed the Examiner's response to claims 1–3 that has been argued by the Appellant. App. Br. 3–8; Reply Br. 1–5.

We disagree with Appellant's conclusions. We adopt as our own (1) the findings and reasons set forth by the Examiner in the action from which this appeal is taken and (2) the reasons set forth by the Examiner in the Examiner's Answer in response to Appellant's Appeal Brief. Ans. 2–6. We concur with the conclusions reached by the Examiner. We highlight and address specific findings and arguments for emphasis as follows.

The Examiner finds that Steve teaches elements [a], [e], and [g] of claim 1 (Ans. 2; Steve ¶¶ 114–119, 122, and 139) and Levin teaches elements [b], [c], [d], and [f] (Ans. 2–4; Levin, Abstract, Figure 11, Section 7).[7]

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[6] Petra Tschirner & Axel Graser, *Virtual and Augmented Reality For Quality Improvement of Manual Welds*, 15th Triennial World Congress, Barcelona, Spain (2002).

[7] Alternately, for element [c], the Examiner cites Buchmann (Final Act. 8–9; Buchmann, Figure 1, Section 3).

Appellant's arguments with respect to the Examiner's obviousness rejection of independent claim 1–3 mainly focus on whether Steve and Levin are combinable. App. Br. 4–7; Reply Br. 1–4.

The Appellant contends "if the method disclosed in Levin for determining a foreground image of each still frame requires user input and takes 'a few seconds,' Levin cannot be applied to a real-time video application" (App. Br. 4) and "one of ordinary skill would readily understand that a method that requires user input for every frame cannot be used in processing a video for display in real-time" (App. Br. 5).

Appellant also contends,

> The Examiner's contention not only ignores the legal requirements of 35 U.S.C. § 103, it directly contradicts the teachings of Levin that "[i]nteractive digital matting, the process of extracting a foreground object from an image based on limited user input, is an important task in image and video editing" and that "[fjrom a computer vision perspective, **this task is extremely challenging**." (Levin at 1, emphasis added.) That is, according to Levin, extracting the foreground image is "extremely challenging" even with input from the user at each individual frame. Yet the Examiner, without any support, makes the bald-faced assertion that extracting a foreground image from a video, without user input, in real-time is "simple." (Advisory Action.) Appellant respectfully submits that a proper rejection under 35 U.S.C. § 103 cannot be based on the Examiner's assertion that is directly contradicted by the very reference the Examiner purports to modify.

App. Br. 6.

In response, the Examiner finds that:

> It would have been obvious to a person of ordinary skill in the art at the time the invention was filed to modify Steve et al. to include determining a foreground reference image; processing the current video image by: substituting the foreground

> reference image onto the combined video image as taught by Levin et al. to process video image (replace the foreground part in the input video image with a foreground image), by Levin et al., and display the process video image on the display screen in realtime, taught by Steve et al., to let user view a combine image with a new foreground to perform image matting and compositing in image and video editing.

Ans. 4.

The Examiner also finds:

> It would have been obvious to a person of ordinary skill in the art at the time the invention was filed to modify Steve et al. to include determining a background reference image; processing the current video image by: combining the current video image and the background reference image as taught by Buchmann et al. to provide an alpha blend operation for input image and background to perform with uniform transparency across important object to handle the visual concealment of important object and information. So Buchmann et al.'s method could be used to welding device, taught by Steve et al., to generate reasonable expectation of success after combining Steve et al. with Buchmann et al.

Ans. 5–6.

We agree with the Examiner because Appellant's arguments do not take into account what the collective teachings of the prior art would have suggested to one of ordinary skill in the art and are therefore ineffective to rebut the Examiner's prima facie case of obviousness. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to

those of ordinary skill in the art." (citations omitted)). This reasoning is applicable here.

We further note that the Examiner has found actual teachings in the prior art and has provided a rationale for the combination (*see* Ans. 4–6). We note that the above-noted teachings suggest that the combination involves the predictable use of prior art elements according to their established functions, i.e., displaying video images during a welding operation. There is no requirement that the problem solved by the secondary reference be discussed by the primary reference to apply the teachings of the secondary reference in a rejection under 35 U.S.C. § 103. The Supreme Court has held that in analyzing the obviousness of combining elements, a court need not find specific teachings, but rather may consider "the background knowledge possessed by a person having ordinary skill in the art" and "the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). To be nonobvious, an improvement must be "more than the predictable use of prior art elements according to their established functions," *id.* at 417, and the basis for an obviousness rejection must include an "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* at 418 (citation and internal quotation marks omitted). Here, the Examiner has provided a rationale for the combination. Accordingly, we find that the Examiner has provided sufficient motivation for modifying Steve with the teachings of Levin.

Appellant provides additional arguments with respect to the patentability of claim 3. App. Br. 7–8. The Examiner has rebutted each of

those arguments in the Answer (page 6). Therefore, we agree with the Examiner's findings and underlying reasoning and adopt them as our own.

Accordingly, Appellant has not provided sufficient evidence or argument to persuade us of any reversible error in the Examiner's reading of the contested limitations on the cited prior art, or in the proper combinability of the prior art references as suggested by the Examiner. Therefore, we sustain the Examiner's obviousness rejection of independent claims 1, 2, and 3.

Consequently, we conclude there is no reversible error in the Examiner's rejections of claims 1–3.

## DECISION

The Examiner's decision rejecting claims 1–3 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED